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The SANITATION OF CITIES

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by

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CONTENTS

CHAPTER		PAGE
I	General Considerations	3
II	The City Plan and the Sanitary Utilities	15
III	Water Supply and Removal of Sewage	23
IV	The Purification of Water Supplies	43
V	The Sewerage System	57
VI	The Sewage Treatment Problem	63
VII	The Biological Treatment of Sewage	73
VIII	Difficult Problems Found in Treating Sewage	83
IX	The Mechanical Treatment of Sewage	89
X	The Purification of Sewage	97
XI	Development of Commercial Waterways as a Sanitary Measure	105
XII	High Pressure Fire Service	111
XIII	Concluding Remarks	117

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CHAPTER I

GENERAL CONSIDERATIONS

BENJAMIN FRANKLIN in one of his wise sayings reminds us that the choice of a good wholesome situation to fix a dwelling in is a very serious affair, especially as not only the comfort of living but even the necessaries of life depend in great measure upon it; since a family frequently sick can rarely, if ever, thrive.

The truth of this and the wisdom of his advice are obvious. Sanitation is a broad subject, and in the present age is especially the problem of the city.

Civilization is the child of the city, and the true measure of social advancement is made manifest particularly in the comfort, health and prosperity of the inhabitants of cities. The ancient municipality encircled by its strong walls reveals civil and social conditions controlled by power and served by slavery. Many cities are written large on the pages of history which are illumed thus with deathless glory. Babylon, Nineveh, Memphis, Jerusalem, Troy, Athens,

ments, sewerage, sewage disposal, wastes disposal, parks, public baths, and various other social conveniences.

But it is only in recent years that serious efforts have been made toward correlating these activities, thereby obtaining not only a more economical plan in the outlay of public funds, but also a much higher efficiency. It is self-evident that street layouts should be related not only to the needs of traffic and the marketing of real property, but also with regard to the most efficient and economical design for the public utilities, such as water supply, surface drainage and sewers. It is no less evident that the needs of water purification and methods to be employed should be considered in relation to sewage treatment and disposal—and that garbage disposal and sewage disposal should be considered together. There are many other questions that are related and should be given consideration at the same time, even if not intended to be provided for together, so that when provided for they may fit in as harmonious parts of a well-planned municipal unit; and the construction of the parts may be carried on progressively, always aiming at a future result by practical means, within the reasonable capacity and resources of the city.

The "reform of the city plan" would be a better term perhaps than "city planning," which has

water has already become, or is rapidly becoming, grossly polluted. Plants for high grade sewage treatment have been introduced at great expense by some cities which do not even purify their drinking water—a far greater necessity—since no possible grade of sewage treatment can render river water, mixed with sewage plant effluent, desirable or really safe for human consumption. There frequently is a general absence of scale, or perspective, in these improvements, and with the best intentions in the world the result is much wasteful expenditure.

The principles that should control in the "reform of a city plan," particularly those relating to sanitary requirements, are of interest to everyone. Much has been written by experts on this subject, especially by English and European engineers and architects, and even by some of our own countrymen. Unfortunately these writings are scattered through many pages of the technical magazines, sometimes in a foreign language or in expensive text books not readily available to the lay reader for whom this paper is primarily intended.

CHAPTER II

THE CITY PLAN AND THE SANITARY UTILITIES

It is obvious that the street plan of a city should not only provide for traffic, and the various other more apparent purposes for which streets and highways are provided, but also for economy and efficiency in the installation and operation of the important sanitary utilities—water supply and sewerage—in order that the water may travel the shortest distance practicable from the main supply to the consumer, and the sewage the shortest practicable distance to the point of disposal without such loss in velocity as would cause deposits in the sewers. But the city planner, whose mind is usually occupied with city beautification, and the needs of street traffic, often overlooks these sanitary improvements; and, in reforming or improving the street plan, often neglects the opportunity to design the new streets with the view of more efficient sewers, that would afford a much more rapid concentra-

sary, to conform to the requirements of these utilities.

The sanitary requirements having been provided for, the architectural judgment of the city planner can be trusted to produce fine effects—by a proper treatment of existing streets, with parks introduced where possible, or with fine buildings at focal points. This is that portion of the designer's work which is appealing to the layman. It is the finished side of the embroidered fabric, showing the beauty of the design, while the under side—or seamy side—remains hidden, and the hard work expended on planning to meet the requirements of traffic and commerce, as well as sanitary and other utilities, is seldom seen or appreciated by the pleased beholder.

The appearance of the streets of a city is best shown by pictures. This is also true of parks, water fronts and seaside resorts, which may constitute some of the very important parts of a city design.

American city designers have been especially successful in preserving and accentuating the intimate character of the city intrusted to their professional care. It is of interest to compare the street views of various cities and observe their individual characteristics.

In the old world this quality has grown through ages of history, and gives to each city an air of personal distinction; especially is this the case

with European cities which have not suffered or benefited by extensive replanning. In Europe, for instance, much that has been done in the line of very necessary civic rebuilding has involved extensive destruction of old buildings, and reconstruction on lines, not unlike our rapidly advancing western cities, which, while partaking of the general character of newness belonging to our country, are not quite in harmony with the distinction and personality of the ancient European city. Moreover, the new structures and plans have a remarkable sameness, which to a great extent deprives each newly planned and reconstructed city of its individuality. On the other hand, it must be admitted that in a material sense, the replanned cities are unrivaled. The provisions made for health, prosperity, and efficiency, are of the very best, and these include the sanitary systems provided, as well as the more apparent features of the plan.

CHAPTER III

WATER SUPPLY AND REMOVAL OF SEWAGE

THE sanitary utilities which are especially necessary in a city are water supply and sewage collection and disposal. There are other sanitary utilities, such as those for the removal and treatment of waste materials—from kitchens, etc., and the sweepings from streets; but these do not require the installation of special structures underground in every street, and are seldom considered in connection with the city plan.

The supply of water, and its removal and disposition when it has become polluted by human use, constitute a problem that cannot fairly be divided. The structures required form one vast machine, consisting of two principal parts—the one carrying in the pure water, and the other carrying out the polluted water, or sewage, and providing for its disposal.

The water supply and sewage removal structures may be described as a single system, since